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Metropolitan Area Planning Council

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WILMINGTON TRANSPORTATION NEEDS STUDY

A Community Assistance Report

April 1984

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About This Report

This report was prepared by the staff of the Metropolitan Area Planning Council at the request of the Town of Wilmington. The Metropolitan Area Planning Council is the officially designated regional planning agency for 101 cities and towns in the Boston metropolitan area. The Council assists its member communities in planning for land use, environmental quality, transportation, economic development and housing.

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Wilmington Transportation Needs Study

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I. INTRODUCTION

The town of Wilmington is located approximately 15 miles north of Boston, in an area experiencing both the benefits and costs of rapid industrial expansion. Served directly by Interstate 93, nearby Route 128, and four primary roadways (Routes 62, 38, 125, and 129), Wilmington officials are concerned over the higher volumes of traffic entering the community either as through traffic bound for industry in neighboring Andover, Burlington, Bedford, and Billerica or as traffic destined for local industry. This traffic mixes with local traffic and, as a result of increasing congestion on major streets, often overflows on to minor or residential streets to shortcut or avoid delay.

Town officials, perceiving that the present traffic problems in Wilmington will worsen over time as industrial development continues throughout the area, approached MAPC to provide assistance in the development of a program of transportation improvements to alleviate these problems. This effort will be integrated into a more detailed future update of the town's comprehensive plan.

Although there have been a variety of transportation-related studies performed for Wilmington, most notably the Route 129 Corridor Study (1981), town officials wanted to develop a town-wide program of traffic improvements that would be implemented in a rational, prioritized manner, according to need and availability of funding. By developing a plan based on priorities, Wilmington town officials believe that future projects can be implemented more effectively to produce the greatest cumulative benefit.

MAPC's work has been directed toward narrowing the focus of the discussion of traffic issues by identifying those problem locations which are of highest concern to town officials. This effort has involved numerous site visits, discussions with town officials, review of available reports and data, and an opinion survey of town officials. While further work, as discussed in this report, will be necessary to provide a more objective quantification of traffic problems, MAPC's short-term community assistance effort is intended to provide constructive direction in which town officials can proceed to address the traffic problems of Wilmington.

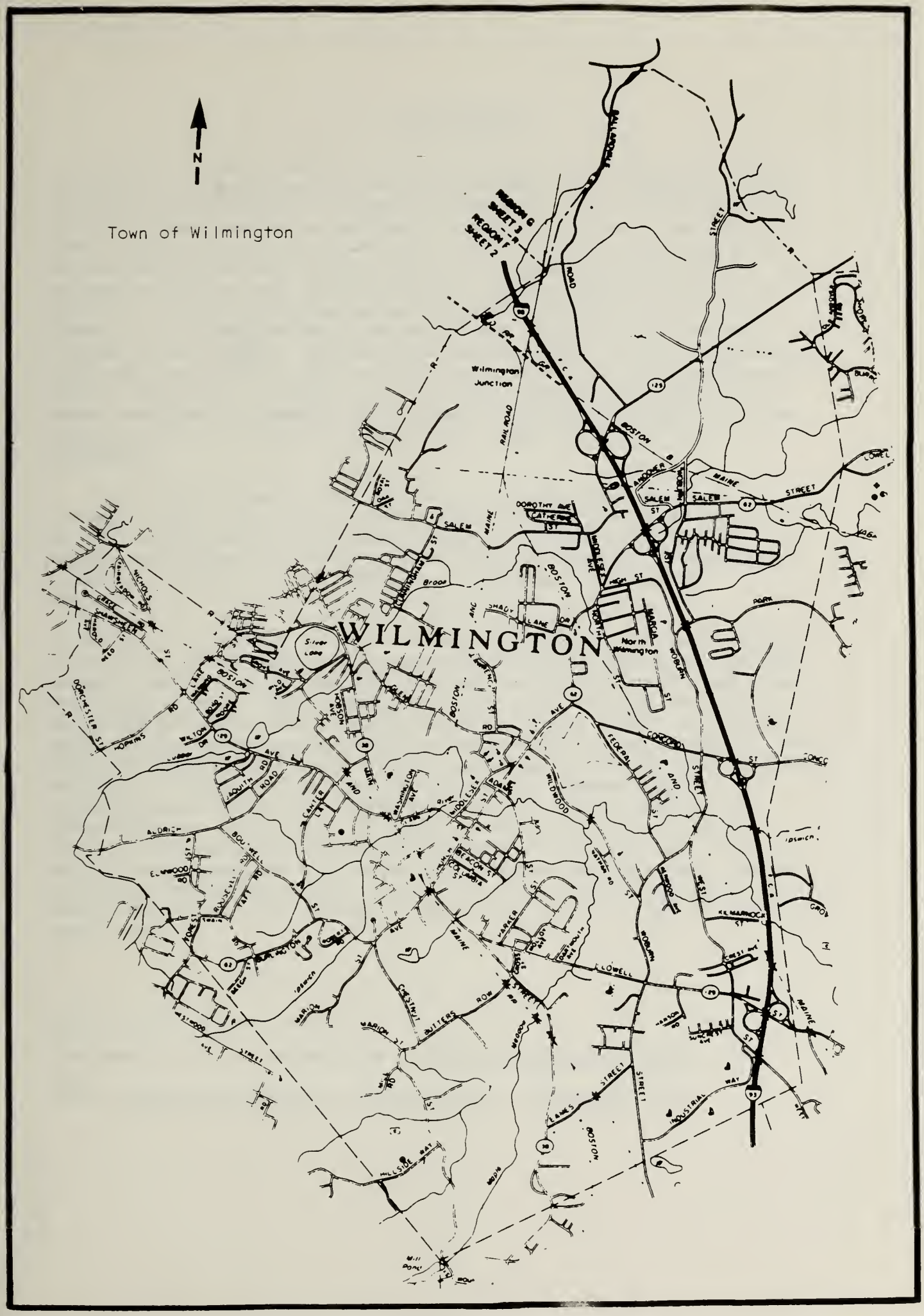
N
Town of Wilmington
WILMINGTON
Wilmington Junction
North Wilmington
Silver Lake
REGION G SHEET 3
REGION F SHEET 2
BOSTON
SALEM
MAINE
STREET
CONCORD
WOBURN
LOWELL
BUTTERS ROW
INDUSTRIAL WAY
HILLSIDE WAY
ALDRICH
ELMWOOD RD
DORCHESTER ST
HOPKINS RD
WILTON DR
JAQUITH RD
ROAD
WASHINGTON AVE
MIDDLESEX
BEACON ST
COLUMBIA ST
PARKER
CHESTNUT
MARION ST
KILMARNOCK ST
FEDERAL
WILDWOOD
HOBSON AVE
CATHERINE ST
DOROTHY AVE
SHADY LANE
NICHOLS
SHAWSHEEN
Mill Pond

FIG. 1

II. AREA GROWTH

In order to fully understand issues related to Wilmington's traffic situation, it is important to understand population and employment trends affecting the community. Wilmington's population is considered relatively stable in comparison to the metropolitan area as a whole. From 1970 to 1980, total population increased from 17,102 to 17,471, amounting to an increase of 2.2 percent. During this time housing units increased by 15.4 percent but this is only slightly higher that the region's growth of 12 percent.[1] However while housing and population have grown slowly in recent years, Wilmington has experienced what could be mildly described as a "boom" in employment. Nongovernment employment has in fact increased by 6.190 jobs from 1970 to 1980, or 76 percent compared to a regional growth rate of 29 percent.[2] Clearly jobs are being created in Wilmington at a faster rate than its population is growing. Therefore many of these jobs are being filled by employees commuting to work from outside of Wilmington.

This pattern appears to be replicated in communities abutting Wilmington also. For example, Woburn actually lost population from 1970 to 1980, a declined of 2.1 percent. At the same time nongovernment employment in Woburn increased by a whopping 129 percent. In Burlington population increased by 6.9 percent but employment increased by 70 percent.

As a focal point of the region's rapidly expanding high tech industry these trends in the communities northwest of Boston, along Route 128, are projected by MAPC to continue into the next century. However these trends also indicate an increase in longer distance commuting with the high population growth communities being primarily beyond I-495. In summary it can be assumed that, barring unforeseen events such as the decline of the high tech industry or a major oil shortage, communities such as Wilmington are likely to experience a continued increase in commuter traffic to workplaces both within and outside their borders in the immediate and distant future. Furthermore, it should be stressed that the traffic problems being experienced in Wilmington are not unique to the community but are being experienced throughout their subarea of the region. While Wilmington industry contributes to the situation, the overall growth of traffic in Wilmington is related to industrial expansion throughout a much larger area.

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[1] Metropolitan Area Planning Council, Regional Decline or Revival, 1982

[2] MAPC, Employment Location in Greater Boston: 1970-2010, 1983

III. DEFINITION OF ISSUES AND PROBLEMS

Expanding on the discussion above, Wilmington is traversed by many of the primary roadways serving the rapidly developing high-tech industrial area northwest of Boston in the vicinity of Route 128. These include Interstate 93 along Wilmington's eastern border which has four interchanges in the community, and Routes 38, 62, 125, and 129. Each of these roadways serve heavy volumes of commuter traffic either travelling through Wilmington or bound for Wilmington's industrial parks. With the exception of Route 125, each of these numbered state routes is heavily developed immediately adjacent to the roadway and have unrestricted access. As a result, these primary roads while being major commuter routes also function as local roadways. In fact a portion of Routes 38 and 129 functions as Wilmington's Main Street and handles the bulk of local commercial-oriented traffic as well as local residential and through traffic bound for other communities. This conflict has intensified in recent years as a result of continual industrial expansion and further commercial development along Main Street.

Although this increase in traffic levels throughout the community has been persistent for many years, little has been done to Wilmington's roadway system to absorb or offset the effects. Wilmington has basically a rural roadway network characterized by narrow width, frequently deteriorating streets with poor alignment. Many of the community's most busy intersections are substandard. Although the 1975 TOPICS Plan[1] for Wilmington identified numerous intersections in need of upgrading, most of the recommended improvements have yet to be implemened. (See Appendix A for a summary of the 1975 TOPICS plan.) This situation is further complicated by the numerous substandard bridges over the B&M railroad, some with only one lane. High peak hour volumes in conjunction with these roadway deficiencies, producing congestion and general operational difficulities, have caused a substantial amount of traffic to route itself through residential neighborhoods to short-cut or avoid congestion.

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[1] Tippets-Abbott-McCarthy-Stratton, Areawide TOPICS Plan, Wilmington, Massachusetts, 1975

IV. PROJECT STATUS

A number of pending projects appear in the Boston Metropolitan Region's Transportation Improvement Program which will directly or indirectly affect Wilmington. These are projects involving some form of federal funding. In addition to these, there are other projects involving state or local funding which will have a significant impact on the community. The status of these projects is discussed below.

1) Route 129 - Interstate Resurfacing

This project includes the redesign of the Route 129 interchange Interstate 93, widening and minor realignment of Route 129 (Lowell St.) from the interchange to the Avco Plant west of Woburn Street, reconstruction and realignment of the Woburn St. approaches and intersection, and relocation of West St. and its intersection from Industrial Way to Nickerson Avenue. Although the project has been planned for nearly 10 years, it is still at the 25 percent design stage awaiting federal approval. The scheduled date to advertise the project for construction is November, 1985. According to the consultant, Barnes and Jarnis, there is an unresolved design question concerning the intersection at West Street. This involves the issue of access to commercial property in the northeast quandrant and access for emergency vehicles on to West Street if a median is constructed. Uncertainity over this situation has apparently delayed further progress. However, as this report is being prepared, new design alternatives for the West Street intersection have been developed which may resolve the issue.

2) Butters Row - Highway Bridge Replacement and Rehabilitation

Presently a one lane bridge, this project involves the reconstruction of the bridge over the B&M Railroad. A new designer, Keyes Associates, has been recently assigned to the project but no date has been established for advertising for construction. At the earliest no work should be expected before 1986, according to MDPW.

3) Route 62-Highway Bridge Replacement and Rehabilitation

This bridge is located directly adjacent to the Route 62, Burlington Street intersection at Lowell Street, Route 129. According to MDPW staff, this project, which is at approximately the 20 percent design stage, is being delayed while awaiting federal approval of the funding category. This is apparently due to the fact that the project involves a redesign of the nearby intersection and its approaches as well as the reconstruction of the bridge. Storch Associates are responsible for the design work. MDPW staff feel the project will probably be advertised for construction in 1986 at the earliest.

4) Wilmington Bridge (Lake Street) - Highway Bridge Replacement and Rehabilitation

This bridge also is over the B&M tracks. In the late 1970's a temporary replacement bridge was erected with the intention of constructing a major replacement soon afterward. However, according to the January, 1983 TIP, this replacement is still under study. There are apparently design problems which need to be resolved related to clearance over the B&M.

No date is given for advertising the project and no design consultant is currently assigned to the project.

Although outside of Wilmington, the new Boston Street bridge in Woburn, appearing in the TIP in the Highway Bridge Replacement and Rehabilitation category, could have a significant effect on Wilmington in that, once opened, the bridge will provide a connection from New Boston Street to Woburn Street. Traffic from industrial development in Woburn can be expected to use Woburn Street to gain access to the I-93 interchange at Route 129. This has raised concern from Wilmington officials given the condition of Woburn Street and its intersection with Lowell Street (Route 129). Although improvements to Woburn Street are included as part of the Route 129 interchange project, given the lack of progress, the New Boston Street bridge could potentially be erected before improvements are made to Woburn Street. A public hearing was held by MDPW in Woburn in February, 1984 on the project but Wilmington officials have indicated that they were not notified and, as a result, were not represented. The project is scheduled to be advertised in November 1985. MDPW has indicated that a design consultant has not yet been hired.

The town of Wilmington itself is pursuing two projects which should significantly improve two locations which were considered major problems in the The Town Official Transportation Survey. Engineering work is scheduled to begin this spring on Aldrich Road from the Billerica town line to its intersection with Shawsheen Avenue. Construction is scheduled for fall, 1984. Chapter 90 funds are to be used for a major reconstruction involving widening and realignment. The town has also successfully applied for funds from the state's Public Works Economic Development Program to improve Ballardvale Street and its intersection with Route 125. A consultant has been hired and design work is underway on this project.

Although implementation could only be considered for the long range future, the town of Andover is now working on a feasibility study for a new interchange on I-93 in Andover. Furthermore the MDPW is presently developing contract language for the preparation of an environmental analysis and 25 percent design of a new I-93 interchange in Woburn to serve the Woburn Industriplex area. This project was recommended in the 1980 I-93 Joint Transportation Study prepared by MDPW. The issue of hazardous waste materials in the vicinity of the project site must be addressed before this project could be considered as feasible. In any event, these projects could potentially be beneficial to Wilmington by reducing traffic bound for Wilmington interchanges on I-93.

V. TOWN OFFICIAL TRANSPORTATION SURVEY

In an effort to establish a consensus with respect to their concerns over traffic problems in Wilmington, a survey was developed and distributed to town officials. Recipients of the survey included the Board of Selectmen, Town Manager, Chief of Police, Superintendent of Public Works, and Executive Director of the Chamber of Commerce. A copy of the distribution list, survey, and cover letter are included as Appendix B.

The survey form listed 38 locations that had been previously identified either through discussion with town officials, site visits, or in existing studies as the site of some form of traffic problem. The form catagorized locations as intersections, bridges and roadways. Survey recipients were asked to rank each location according to the following scale:

High - Significant problems requiring immediate corrective action
Medium - Problem of moderate concern requiring attention in the future
Low - Not a significant problem

Twelve survey forms were distributed and eight were returned and tabulated. While not a procedure for establishing priorities based on quantifiable data, there was, nevertheless, a significant level of consistency in the responses. Furthermore this procedure is useful in narrowing the focus of further effort to those locations which are of greatest concern.

Summarizing the results of the survey, two locations were ranked as high problems by all survey recipients. These were:

Intersection of Ballardvale Street and Route 125
Intersection of Church Street and Burlington Avenue at Main Street (Route 38)

Not surprisingly, both of these locations are already programmed for improvements (see "Project Status" section). The remaining projects which ranked highest in the survey are listed below in approximate desending order:

Intersection of Middlesex Ave. and Federal Street
Intersection of Lowell St. (Rt. 129) and Woburn St.
I-93 at Route 129 Interchange
Burlington Ave. (Rt. 62) Bridge
West St. (from Industrial Way to Route 129)
Lowell St./Main St. (from Reading T/L to Richmond St.)
Intersection of Richmond St. and Main St. (Rt. 38)
Intersection of Andover St./Woburn St. and Route 125
Butters Row Bridge

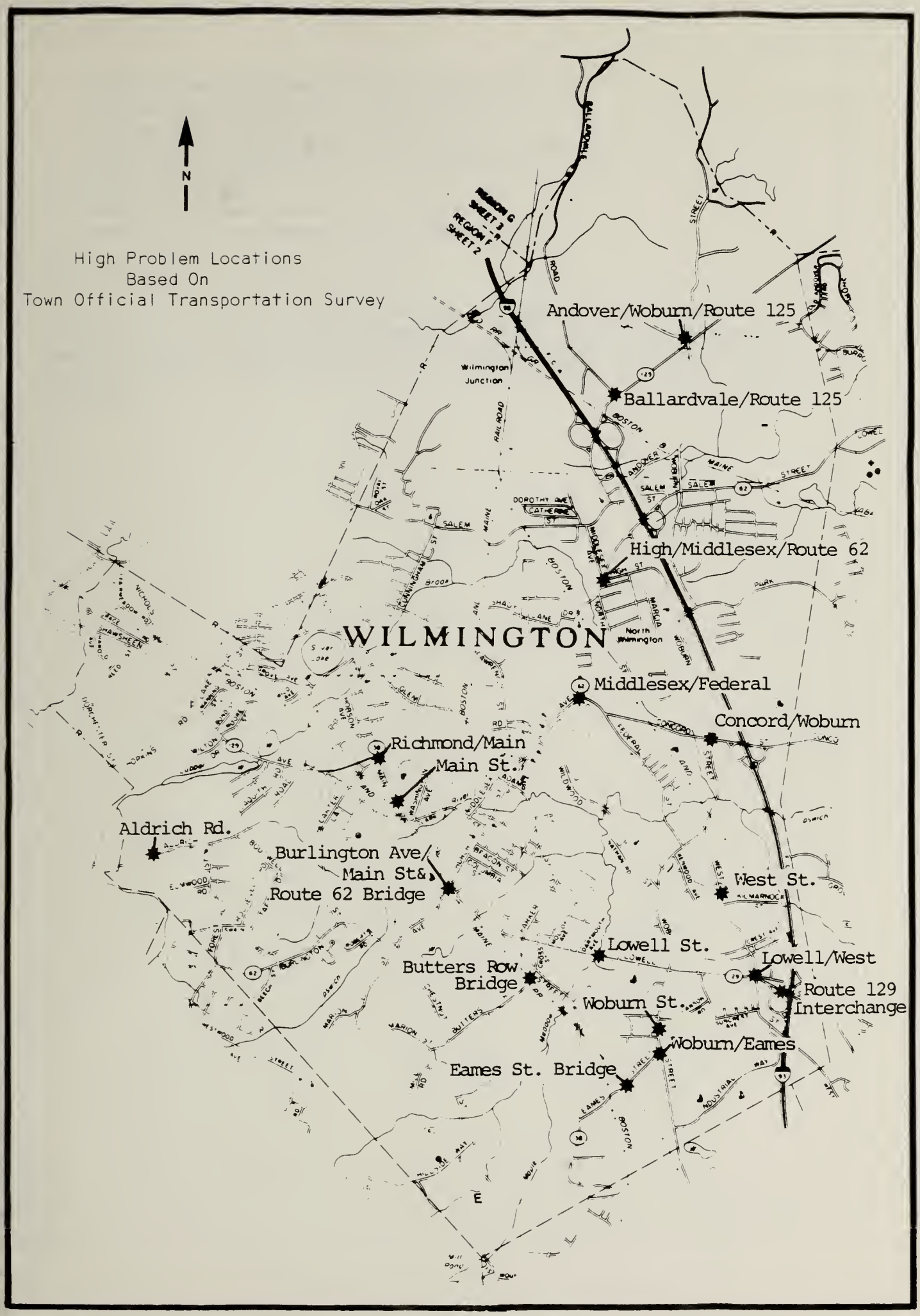
N
High Problem Locations
Based On
Town Official Transportation Survey
Andover/Woburn/Route 125
Ballardvale/Route 125
High/Middlesex/Route 62
WILMINGTON
Middlesex/Federal
Concord/Woburn
Richmond/Main
Main St.
Aldrich Rd.
Burlington Ave/
Main St&
Route 62 Bridge
West St.
Lowell St.
Lowell/West
Route 129
Interchange
Butters Row
Bridge
Woburn St.
Woburn/Eames
Eames St. Bridge
Wilmington
Junction
North
Wilmington

FIG. 2

High St./Route 62/Middlesex Ave. Intersection
Intersection of Woburn St. and Eames St.
Intersection of Lowell St. and West St.
Aldrich Rd. (between Andrew St. & Billerica T/L)
Intersection of Concord St. and Woburn St.
Eames St. Bridge
West St. (between Lowell St. & Woburn St.)
Woburn St. (From Woburn T/L to Wildwood St.)

These locations are shown in Figure 2.

Given the level of concern expressed in regard to these locations as a result of the survey, it is reasonable to begin a study of Wilmington's traffic problems with a more detailed investigation of these sites. The following discussion further addresses issues at these identified problem locations.

VI. PROBLEM LOCATIONS

Based on field visits and the preceeding investigation, the following sites were identified as being critical locations requiring more detailed attention.

1) Intersection of Ballardvale Street and Route 125

This intersection is frequently cited as one of Wilmington's two most critical traffic problems. Ballardvale Street provides access to a dense concentration of industrial development which is expanding. Although the site of frequent accidents, problems at this location appear to be due in large part to the high volumes of traffic passing through. Recent counts indicated that 2420 vehicles went through the intersection in the morning peak hour and 2304 vehicles in the evening peak hour. There is also a significant amount of heavy trucking through the intersection throughout the day. Presently there is no signalization at this location. A flashing yellow beacon is hung overhead in the middle of the intersection. During the peak hours a traffic officer frequently directs traffic although this can be expensive and inefficient. Signalization is recommended although signals must be timed to avoid creating backups at the nearby interchange on I-93. The town of Wilmington recently received a Public Works Economic Development (PWED) grant to improve this location and has hired a design consultant. Route 125 is administered by the State DPW and Ballardvale Street by the town. Both roadways are on the Urban System Federal Aid System.

2) Intersection of Church Street, Burlington Avenue, and Main Street Burlington Avenue Bridge

The Burlington Avenue Bridge over the B&M tracks is narrow, the bridge surface is pot-holed, and it is generally in poor condition. The bridge itself is one leg of this intersection which is generally considered the commercial town center. It handles a high volume of traffic and, reportedly, is a high accident location. Because of the required clearance over the B&M track, all approaches to the intersection incline upward at a fairly steep grade. Furthermore the roadways also curve on all approaches except Church Street, resulting in very poor sight distance. Traffic turning left from either Main Street leg have an extremely limited line of sight due to the change in grade. The narrowness of the bridge with its proximity to the intersection results in clearance problems, particularly for turning vehicles when other vehicles are stopped on the bridge. Despite the existing signalization, this intersection operates as Wilmington's most congested bottleneck during peak periods due to the high volumes on Routes 62 and 129. The bridge and intersection are programmed in the TIP for improvement. The bridge, signalization, geometrics, and roadway alignment are all in need of improvement. Assuming that these improvements are successful, elimination of this bottleneck should reduce congestion throughout the length of Main Street and on Route 62, thereby reducing the tendency toward shortcutting resulting from traffic wishing to avoid this intersection.

3) Intersection of Middlesex Avenue (Route 62) and Federal Street

At this three-way intersection, Middlesex Avenue curves around the base of a hill while also inclining upward on both approaches. A flashing yellow signal is hung overhead with a stop sign facing Federal Street. A speed limit of 30 mph is posted on Middlesex Avenue although observed speeds were much in excess of this. Reflectors are hung on the northeast corner to help define the alignment of Middlesex Avenue. Nevertheless this is reported to be a high accident location. Clearly there is a sight distance problem for traffic turning from or onto Federal Street. While a realignment of the intersection would be desirable, there are numerous difficulties posed by the topography and the close proximity of houses on the west side of Middlesex Avenue and on the northeast corner. Removal of vegetation on the northeast corner could improve sight distance to the north for Federal Street traffic. However significant improvements at this location appear to require an engineering analysis. Such an effort may be warranted given levels of I-93 traffic along Federal Street and through traffic on Middlesex Avenue.

4) Intersection of Lowell Street (Route 129) and Woburn Street

This intersection handles high volumes of commuter traffic as well as heavy trucks bound for industry to the south along Woburn Street and Industrial Way as well as along Route 129 to the west. The Woburn Street approaches are narrow creating difficulties for vehicles caught behind turning vehicles and for heavy trucks with wider turning radii. Turning lanes are not designated although the approaches may be too narrow to allow for them. No pavement markings are visible. Overall, the geometrics and signalization at this intersection are in need of upgrading. This will become crucial should the state DPW proceed with plans to rebuild the New Boston Street Bridge which will provide new access to Woburn Street for Woburn Industriplex traffic. This project is included as part of the Route 129 Interchange project in the TIP.

5) Intersection of Lowell Street (Rt 129) and West Street
West Street (from Industrial Way to Route 129)

West Street enters Wilmington from Reading. In Reading West Street is entirely a residential collector roadway. Just over the Wilmington town line it crosses over I-93 and intersects with Industrial Way in the vicinity of dense commercial development. This commercial development generates a substantial amount of traffic which must travel along a narrow, winding residential roadway which accounts for the remainder of West Street between Lowell Street (Route 129) and Industrial Way. The intersection at Industrial Way involves an awkward turn at a steep grade,

difficult for trucks. The intersection at Lowell Street is signalized although there are no visible pavement markings, and the pavement is in poor condition. Heavy trucks observed at the intersection had difficulties negotiating their turns and frequently had to enter on-coming lanes of traffic to make their turns. This location, including a complete realignment of West Street, is included in the Route 129 Interchange improvement project in the TIP for a redesign of the intersection. However, according to a representative of the consulting firm responsible for designing the Route 129 project, progress on this project has been delayed pending a resolution of issues related to access to and/or compensation to the lessor of a service station located at the northeast corner of the intersection.

6) Lowell Street (Route 129)/Main Street (Route 38) from Reading Town Line to Richmond Street

Lowell Street/Main Street is the major arterial of Wilmington. Yet, as explained in the problem discussion earlier in this report, it must serve local traffic, commercial traffic and through traffic. The roadway is frequently congested during peak hours and also on weekends due to a heavy volume of commercial traffic and poor design such as a lack of turning lanes in the vicinity of the commercial activity. Existing development precludes any easy solutions to the traffic problems of this roadway yet solutions seem essential if the remainder of Wilmington's roadway network is to avoid the overflow resulting from present operations. The state DPW prepared a corridor analysis of operations along the roadway which identified a number of alternative improvement schemes. At this time only the Route 129 Interchange and Church Street/Burlington Avenue projects are proceeding. Reference should be made to the DPW study for detailed information[1].

7) Intersection of Richmond Street and Main Street (Route 38)
According to local officials this three way intersection is frequently congested, with traffic backing up on Richmond Street unable to turn on to Main Street. This is due in large part to traffic generated by the dense commercial development in the vicinity of the interchange. It was noted on a site visit that development continues to occur in the vicinity with a small shopping plaza currently under construction. Richmond Street was recently contructed to handle the combined traffic from both Shawsheen Avenue and Bridge Lane where bridges over the B&M tracks were closed. Although Richmond Street handles a high volume of through traffic from Billerica and Chelmsford, this intersection is currently unsignalized. It is recommended that an intersection analysis be undertaken to determine the feasibility and desirability of signals at this location.

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[1] Massachusetts DPW, Project Development Committee Report: Transportation Improvements to Route 129, Wilmington/Reading.

8) Intersection of Andover Street and Route 125

This four way intersection handles high volumes of commuter traffic from the Andover area, much of it bound for commercial/industrial locations along Andover Street. Additional traffic is bound for I-93 and Ballardvale Street. In addition to stop signs on Andover Street, there are flashing yellow signals on two poles to help designate the intersection. However this is considered a hazardous location with significant congestion resulting from the inability of traffic on Andover Street to cross or enter the flow of traffic on Route 125. Traffic on this section of Route 125, although not far from the intersection at Ballardvale Street was observed to be travelling at higher speeds. In general the intersection does not appear to be well defined despite the flashing signals which are low and not clearly visible on Route 125. Pavement markings identifying the approach to the intersection and improved warning signals would improve this situation. The southern approach of Andover Street also appears to have a limited sight distance due to its upward slope to Route 125 and vegetation obstructing the view to Route 125 to the northeast. Given the likelihood of further development along Andover Street north of Route 125, an analysis of improvements to this intersection appears warranted.

9) Butters Row Bridge

This one lane bridge over the B&M tracks often handles overflow traffic from Burlington Avenue wishing to avoid congestion at the Burlington Avenue/Main Street intersection. This is a hazardous operation given an almost total inability to see on-coming traffic. However, according to the Police Safety Officer, collisions seldom occur at the bridge although near misses are frequent. Improvements to the bridge are programed in the TIP although not for the near future.

10) Woburn Street from Woburn Town Line to Wildwood Street
Intersection of Woburn Street and Eames Street

Woburn Street runs generally north-south, roughly parallel to I-93 for 4.4 miles on Wilmington's eastern side. Given its length, proximity to I-93 interchanges, and connections with intersecting streets, it serves a higher volume of traffic than for what it was designed. Woburn Street north of Route 129 is a narrow, winding, residential street. South of Route 129 it narrows even more through a densely developed residential area with very little frontage until it widens south of Eames Street approaching the Woburn town line, in the vicinity of dense industrial development. South of Route 129, Woburn Street handles a substantial amount of heavy truck traffic which is clearly in conflict with the abutting residential development. Given the narrow width of the roadway (20-24 feet) these large trucks often must use the dirt shoulder if passing on-coming trucks. The intersection at Eames Street is particularly

difficult for trucks using Eames Street turning from or to Woburn Street to the south given its awkward geometrics. The design for the Route 129 Interchange project addresses some of the problems of Woburn Street through a redesign of the Route 129 intersection and a realignment of Woburn Street on its approaches to the intersection. However the project does not address the problems further south through the residential area. Given the volumes of commuter and truck traffic and the potential for a substantial increase in traffic due to the proposed New Boston Street Bridge, further analysis of possible improvements to this roadway are warranted.

11) Eames Street Bridge

Eames Street provides a connection between Woburn Street and Main Street (Route 38) to the south. Several large industrial developments abut Eames Street. The Eames Street bridge is a narrow bridge with steep approaches over the B&M tracks. The bridge is signed for a 12 ton weight limit. The condition of the bridge restricts truck traffic between Woburn and Main Streets which as a result must travel a more indirect route if loaded. It should be mentioned however that during a site visit, several semi-trailer trucks were observed using this bridge which may or may not have been loaded. Given the bridge's location, further investigation should be directed toward determining whether the restrictions posed by the bridge are resulting in an overall negative effect on traffic and particularly truck movements.

12) Intersection of Woburn Street and Concord Street

This intersection is a few hundred yards from the Concord Street interchange on I-93. Concord Street traffic has free movement through the intersection and travels at high speeds. Woburn Street is posted with stop signs. A traffic island serves as a median on Concord Street east of the intersection. The island and the southwest corner of the intersection have flashing yellow signals posted on poles. Examination of accident statistics should be made to determine if the reported hazardous operations at this intersection warrant installation of traffic signals.

13) Intersection of Middlesex Avenue, Route 62, and High Street

This four-way intersection handles a high volume of traffic from the North Reading area and from Wilmington's industrial sites in the vicinity of Route 125 to the north. During peak hours traffic is frequently congested along Middlesex Avenue waiting for an adequate gap to turn on to Route 62. There appears to have been recent curbing and channelization work at the intersection. A flashing yellow light is hung overhead in the center of the intersection. Further improvements to the geometrics appear possible, particularly for the northwestern approach of Middlesex Avenue.

14) Aldrich Road

Aldrich Road is a narrow, winding, hilly roadway through residential development which appears to be experiencing a great deal of new development. Much of this development is very close to the roadway limiting frontage. The road is posted at 25 mph and 20 mph. The roadway generally is in poor condition. This road is a shortcut from Billerica to Route 129 (Shawsheen Avenue) and, as a result, experiences high traffic volumes despite its deficiencies. The town of Wilmington intends to undertake the engineering for a Chapter 90 reconstruction project for Aldrich Road in the spring, 1984.

15) West Street from Route 129 to Woburn Street

This section of West Street is a winding, residential roadway, signed at 25 mph. There is very little frontage in places given the proximity of the residential development. The road is used as a shortcut between Woburn Street and Route 129 although it is not apparent whether this results in significant volumes. Counts should be performed to establish traffic volumes and the need for corrective efforts.

VII. RECOMMENDATIONS

The following is a list of recommendations that should serve as the starting point for Wilmington in its on-going efforts to address its traffic concerns. It shall not be considered all-inclusive nor is it arranged in any order of priority. Some of the recommendations are long-term projects, others can be considered short term. They are nevertheless components of an overall program.

1) Routes 129 and 38

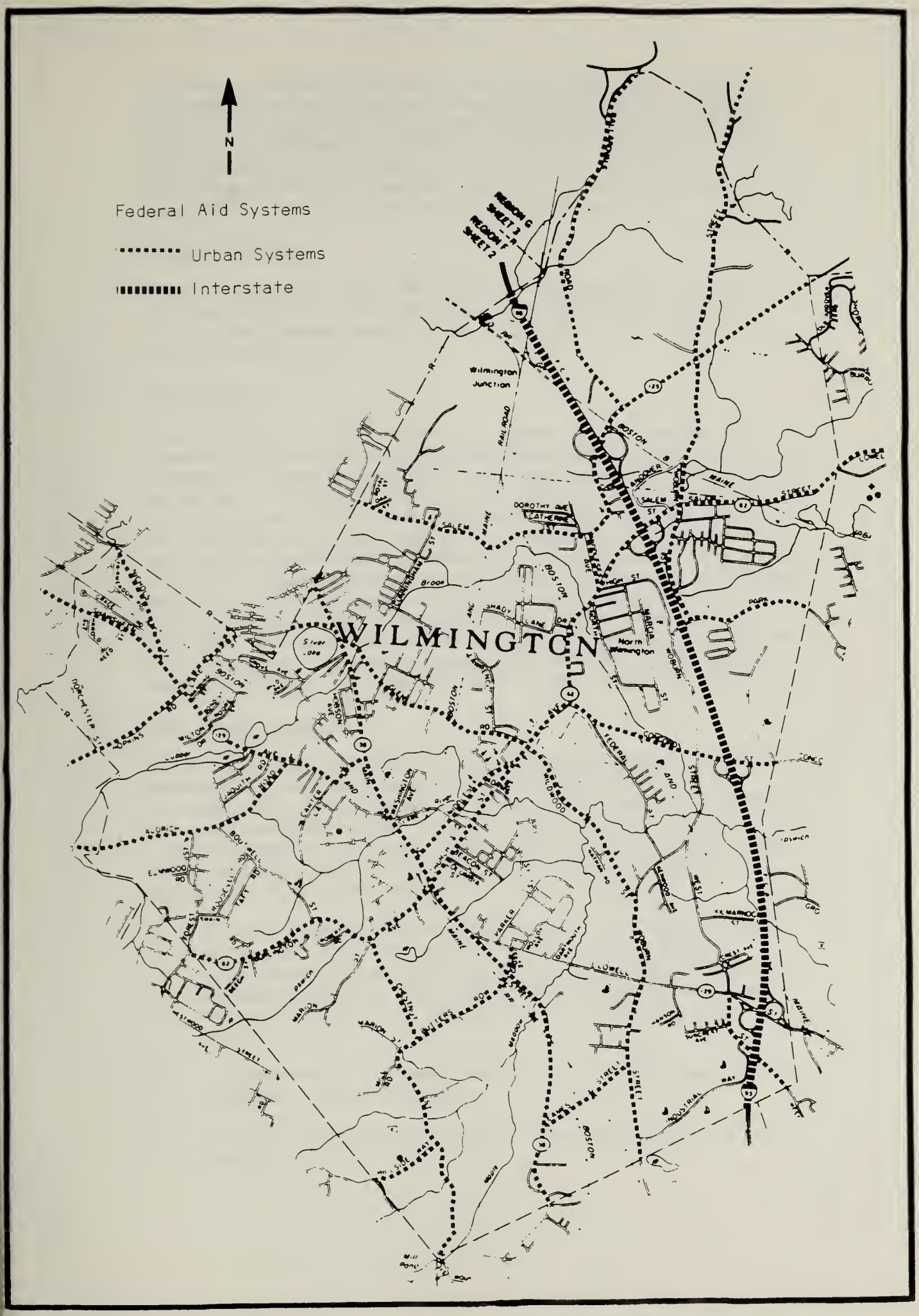
Proceed with improvements on Wilmington's primary roadway, Routes 129 and 38 from the Reading town line to Richmond Street. This involves the improvements included as part of the Route 129 interchange project, the intersection at Church Street/Burlington Avenue, widening and provision of turning lanes and improved access in the vicinity of Wilmington Plaza, and possible signalization at Richmond Street. Without these improvements, it is unlikely that any other improvements elsewhere in the community will be able to provide substantial relief from congestion on the roadways intersecting with Routes 129 and 38.

2) Street Signing

Coordinate improved directional assistance for trucks travelling to Wilmington's industrial areas. Although the state DPW cannot legally sign the name of specific companies on state property, it can provide improved signing of street names. This would be useful in advance of interchanges on I-93 and immediately upon exiting I-93. Requests for improved signing can be made to DPW's Chief Engineer Robert McDonough. Improved street signing, in conjunction with the inclusion of directions on company letterheads or bills of lading, should improve the situation for truckers. The Wilmington Planning Board is presently working on the development of a signing program.

3) Project Tracking

Track the progress of projects currently "in the pipeline" awaiting approvals from state and/or federal agencies to proceed. Contact should be made with the appropriate agency officials and support should be formalized as necessary by town officials and legislative representatives. A continued show of support is more likely to result in success. In conjunction with this, local officials should familiarize themselves with the various sources of funding available for existing and future projects. Wilmington is located within the Federal Aid Urban Area for Boston and most of its major streets are classified as Federal Aid Urban System. (See figure 3.) As a result, many of the locations cited in the preceding section could be eligible for Urban Systems funding, depending on the types of improvements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North Wilmington
Silver Lake
REGION G SHEET 3
REGION F SHEET 2
BOSTON
MAINE
SALEM
DOROTHY AVE
CATHERINE
SHADY LANE
WOBURN
FEDERAL
WILDWOOD
WASHINGTON AVE
BEACON ST
COLUMBIA
PARKER
LOWELL
KILMARNOCK
INDUSTRIAL WAY
MARION
BOUTWELL
ALDRICH
DORCHESTER
WILTON
HOPKINS
CANTER
HOBSON AVE
CLINNINGHAM
Brook
Mill Pond

FIG.

proposed. However a variety of other funding sources exist. A recommended reference is the guide Transportation Programs: A Guide for Local Officials in the Metropolitan Boston Region, prepared by MAPC for the Boston Metropolitan Planning Organization. For information on the proper funding source for a specific project, the District 4 office of the Massachusetts Department of Public Works should be contacted.

4) Pavement Marking

Pavement markings should be repainted as appropriate for all intersections on Routes 129 and 38. At many locations, lane markings are non-existent. This is hazardous and results in confused operation.

5) Ridesharing

Town officials should lend their support to the Chamber of Commerce and Caravan, the statewide ridesharing agency, which are working with area employers to encourage ridesharing options for employees. Although improved train service, better parking at train stations, and the institution of fringe parking facilities will help the region overall by providing more alternatives for mass transportation and ridesharing, these alternatives are not likely to address immediate needs within Wilmington. Furthermore bus service to Wilmington is limited to infrequent trips to locations unlikely to be beneficial for regular commuters. Therefore increased company-based ridesharing appears to be the best option for reducing the number of vehicles entering the community without reducing the total number of person-trips.

6) Long Range Planning

Establish a long range plan of transportation/traffic improvements for the community based on objective, systematically-collected data. Although a potentially expensive and time-consuming effort, such a plan can present solid justification for necessary improvements and will be the basis for a comprehensive prioritization of future improvements. Components of this planning effort would include:

a. Street inventory including measurement of street widths, assessment of condition, and review of functional classification for funding purposes. Some of the necessary information can be collected from the state DPW's Roadway Inventory File but it should be supplemented by field checks.

b. Vehicle counts including average daily traffic and turning movements at key locations.

c. Accident data analysis based on data obtainable from the state DPW.

d. Review of development plans for Wilmington and adjacent communities to assess future trends in traffic growth. This is recommended over performing expensive, labor-intensive origin and destination travel surveys. If further data is required, a limited survey of area employers to ascertain the home origins of their employees can be performed.

e. Based on proceeding steps, capacity restraints for the present and future can be assessed using vehicle to capacity, ratios and level of services calculations.

f. Establish policy and prioritization of projects for future implementation.

For the more detailed data collection efforts, it is recommended that Wilmington obtain outside assistance from CTPS or a transportation consultant.

The preceding material was intended to identify traffic problems in general and to begin the focus in on the most significant areas in need of attention. However, as stated above, further work must be conducted in order to narrow the focus to those most critical and implementable projects. Much of this work must be the responsibility of local officials and the residents of Wilmington. Without their understanding and support, progress will be impeded. Most importantly, without a strong showing of unified support, state funding agencies are less likely to be responsive to Wilmington's requests for assistance. There is too little money available for too many projects. Competition between communities is intense. If a community cannot forcefully support its case for project funding, other communities can and this is where funding agencies will prefer to disburse their dollars.

In summary, there is an obvious need for Wilmington to organize its efforts both technically and politically to put together the thoughts and needs of the community and to present a unified voice in support of necessary traffic improvements.

It is recommended that this effort be facilitated by the formation of a Traffic Committee to advise the Town Manager and Board of Selectmen on traffic issues and community transportation needs. This committee can serve a technical role by coordinating volunteer efforts for data collection or by being the liaison to outside agencies or consultants performing further technical studies. Furthermore it can articulate a town policy on traffic issues that can be used to evaluate future development proposals which may be under consideration by the town.

While such a committee can take many forms, i.e. a task force, additional role for an existing body, or a newly-constituted group, it should have clearly defined responsibilities and be the focus for future decision-making related to transportation issues. Committees such as this have been successful in other communities and it can play a significant role in resolving Wilmington's long-standing traffic problems.

APPENDICES

Appendix A

1975 Areawide TOPICS Plan Summary

1. Basic Operational Improvements
   Includes signing, sidewalks, curbing, and street widening.
   No specific locations identified.

2. Main Street (Route 38)/Burlington Avenue (Route 62)/Church Street (Route 62)
   a. Short range: Upgrade existing traffic signal.
   b. Long range: Replace existing railroad bridge.

3. Main Street (Route 38)/Wilmington Plaza Shopping Center/Bridge Lane (Relocated Route 129)
   Analysis of deficiencies

4. Route I-93 Ramps at Lowell Street (Route 129), at Concord Street, at Salem Street (Route 62)/Middlesex Avenue (Route 62) and at Route 125
   Improve lighting, signing, better delineation of entrance and exit ramps.

5. Main Street (Route 38)/Shawsheen Avenue (Route 129)
   Analysis of deficiencies and operational hazards.

6. Middlesex Avenue/Church Street (Route 62)
   Improve intersection geometrics and install warning or traffic signals.

7. Lowell Street (Route 129)/Woburn Street
   Upgrade traffic signals and define access/egress to adjacent shopping center through additional curbing.

8. Main Street (Route 38)/Grove Avenue
   Install semi-actuated traffic signal and upgrade pavement markings.

9. Woburn Street/Concord Street
   Improve intersection geometrics and consider installation of semi-actuated traffic signal.

10. Middlesex Avenue/Clark Street
    Increase curb radii and provide additional traffic control.

11. Main Street (Route 38)/Lowell Street (Route 129)
    Realign Lowell Street approach and upgrade traffic controls.

12. Middlesex Avenue (Route 62)/Federal Street
    Improve intersection geometrics and consider installation of semi-actuated traffic signal.

13. Woburn Street/Park Street
    Install stop signs or flashing beacons.

14. Lowell Street (Route 129)/West Street
    Improve geometrics of intersection, provide additional traffic control, install curbing.

15. Lowell Street (Route 129)/Parker Street
    Install flashing beacon.

16. Church Street (Route 62)/Adams Street
    Upgrade intersection geometrics and improve traffic controls.

17. Shawsheen Avenue (Route 129)/Lake Street/Hopkins Street
    Install flashing school zone signs, increase pavement width, and increase sight distance on Lake Street approach.

18. Main Street (Route 38) near Brewster's and Polyvinyl Chemical Inc.
    Provide separate turning lanes and advance signal warning.

19. Main Street (Route 38)/Cross Street/Butters Row
    Improve and increase pavement width of Cross Street, review existing traffic control.

20. Shawsheen Avenue (Route 129)/Carter Lane/Bridge Lane
    Drop from TOPICS Plan.

21. Andover Street/Route 125
    Remove earthen mound on S.E. corner and install additional traffic control.

22. Middlesex Avenue/Adams Street
    Improve roadway definition by installing additional curbing, revise intersection geometrics and install stop signs or flashing beacons.

23. Concord Street/Federal Street
    Consider upgrade of intersection geometrics.

Appendix B

Wilmington Traffic Survey

Please rank each of the following locations high, medium, or low in terms of relative concern as a local traffic problem. The following definitions should be applied:

High - Significant problems requiring immediate corrective action
Medium - Problem of moderate concern requiring attention in the future
Low - Not a significant problem

Please return your completed survey form to MAPC by March 22, 1984.

Intersections:	High	Medium	Low
Andover Street/Woburn Street at Route 125	5*	3	
Salem Street/Route 62 at Woburn Street	1	6	
High Street/Route 62/Middlesex Avenue	4	4	
Middlesex Ave. at Federal Street	7	1	
Concord Street at Woburn Street	3	5	
Main Street at Cross Street/Butters Row	1	4	3
Woburn Street at Eames Street	4	4	
Lake Street at Grove Avenue			8
Shawsheen Ave. at Nichols Street	1	3	4
Ballardvale Street at Route 125	8		
Brattle Street at Glen Road		3	4
Richmond Street at Main Street (Rt. 38)	6	2	
Church Street/Burlington Ave. at Main Street (Rt. 38)	8		
Parker Street at Adams Street		7	1
Lowell Street (Rt. 129) at Woburn Street	7	1	
Lowell Street (Rt. 129 at West Street)	5	2	1
I-93 at Route 129 interchange	7	1	

*Numbers indicate responses of survey recipients.

	High	Medium	Low
Bridges:			
Middlesex Ave. (between North Street and Shady Lane Drive)	1	4	2
Lake Street (between Grove Ave. and Shawsheen Ave.)	3	3	1
Burlington Ave./Route 62 (between Floradale Ave. and Main Street)	7	1	
Butters Row (between Factory Road and Main Street)	5	3	
Eames Street (between Jewel Drive and Woburn Street)	3	5	
Roadways:			
Andover Street (from Andover T/L approx. .5 mile)	1	6	1
Federal Street (between Concord Street and Grant Street)	1	5	2
Glen Road (between Gandalf Way and Brattle Street and between Harnden Street and Miller Road)	3	3	1
West Street (between Lowell Street and Woburn Street)	3	5	
Aldrich Road (between Andrew Street and Billerica T/L)	4	4	
Burlington Ave./Rt. 62 (in vicinity of Boutwell Street and Chestnut St.)	2	6	
Chestnut Street (between Butters Row and Mill Road)	1	5	2
Boutwell Street (between Burlington Ave. and Butters Row)		6	
Glen Road (between Middlesex Ave. and Main Street)	2	5	1

Roadways: (con't)

	High	Medium	Low
Adams Street		6	2
Clark Street	1	4	3
Middlesex Avenue (between Adams Street and Clark Street)	1	5	2
Parker Street		6	2
Woburn Street (From Woburn T/L to Wildwood Street)	5	2	
West Street (from Industrial Way to Route 129)	7	1	
Lowell Street/Main Street (from Reading T/L to Richmond St.)	7	1	

Others:

Comments:

Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108 (617)-451-2770

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March 14, 1984

As you know, a working session is scheduled for Tuesday, March 27, 1984 at the Town Managers office to discuss progress on the MAPC Traffic Study for Wilmington. One of the primary purposes of this study is to develop a consensus among town officials, residents, and other interested parties concerning Wilmington's traffic problems. The development of this consensus includes an effort to subjectively set priorities for future traffic improvements in Wilmington.

Based on information provided me by the Town Manager and the Town Safety Officer, I have prepared a list of locations which have been identified, for a variety of reasons, as the site of significant traffic problems. While a detailed data collection effort could be undertaken to objectively evaluate priorities, this can be expensive and time-consuming. Furthermore, such efforts frequently provide little insight that could not be more cost-effectively obtained through the collective insights of area residents who are exposed on a daily basis to the traffic problems.

Therefore as preparation for our March 27 meeting, I am asking that you spend 15 minutes to complete the enclosed survey. On the survey, I would like you to rate, based on your subjective opinion, the severity of traffic problems for each of the locations previously identified. Each location should be ranked either high, medium, or low by placing a check-mark in the appropriate space based on the following definitions:

High - Significant problem requiring immediate corrective action

Medium - Problem of moderate concern requiring attention in the future

Low - Not a significant problem

Please send your completed survey back to me in the enclosed envelope as soon as possible so that results can be tabulated prior to our March 27 meeting. We can discuss the results at that time. If you have any questions, please feel free to call me at 451-2770.

I look forward to reviewing the results of this exercise and am hopeful it will be a constructive effort toward better defining traffic issues in Wilmington.

Sincerely,

Denny Lawton
Senior Transportation Planner

izabeth A. Bransfield, President William C. Sawyer, Vice-President Frank E. Baxter, Secretary Patricia A. Brady, Treasurer

Executive Director: Alexander V. Zaleski